

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

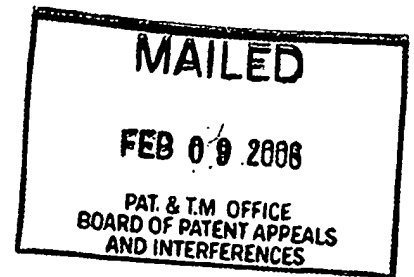
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GEORGE P. POLLACK

Appeal No. 2006-0462
Application 09/587,948

ON BRIEF



Before THOMAS, KRASS, and SAADAT, Administrative Patent Judges.

THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

Appellant has appealed to the Board from the examiner's final rejection of claims 1 through 3, 5 through 13 and 15 through 21.

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Representative claim 1 is reproduced below:

1. An electrical terminal for mounting in a pre-formed channel in a plug housing, comprising:

(a) a crimp flange having a pair of upwardly directed opposite side portions and a bottom portion extending between and interconnecting said side portions;

(b) at least one insulation piercing knife integral with said crimp flange projecting from said bottom portion into the space between said side portions; and

(c) a blade extending from said crimp flange for insertion into an electrical socket, said blade including a web portion connected to said crimp flange and a plurality of lance-formed barbs along said web portion for abutting against a wall of the pre-formed channel to resist removal of said electrical terminal from said plug housing.

The following references are relied on by the examiner:

Gilbert	2,229,288	Jan. 21, 1941
Klumpp, Jr.	2,982,938	May 2, 1961
Takemasa	6,045,408	Apr. 4, 2000
Ozaki	09-213436	Aug. 15, 1997

(Japanese Patent)

All claims on appeal stand rejected under 35 U.S.C. § 103.

As to claims 1 through 3 and 21, the examiner relies upon Klumpp in view of Takemasa. As to claims 5 through 11, 13, 15, and 16, the examiner relies upon Gilbert in view of Klumpp. To this latter combination of references, the examiner adds Takemasa as to claims 12 and 17. Finally, as to claims 18 through 20, the examiner relies upon Gilbert in view of Klumpp, further in view of Ozaki.

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Rather than repeat the positions of the appellant and the examiner, reference is made to the brief (no reply brief has been filed) for the appellant's positions, and to the answer for the examiner's positions.

OPINION

For the reasons which follow, we reverse the variously-stated rejections of the claims on appeal rejected under 35 U.S.C. § 103.

We turn first to the rejection of independent claim 1 and dependent claims 2, 3, and 21 under 35 U.S.C. § 103 in view of Klumpp and Takemasa.

From our study of Klumpp and Takemasa and in view of the arguments presented by appellant and the examiner, we have concluded that the examiner has not presented to us a convincing line of reasoning to lead us to conclude that the artisan would have combined the teachings of Klumpp and Takemasa within 35 U.S.C. § 103. The examiner's reasons for combinability, first expressed at pages 3 and 4 of the answer, seem to be general and somewhat presumptive in nature. It appears to us from our study of both references that the artisan would have found no

reason to have provided any additional assurance of correct
contact alinement between the plug shown in Klumpp's Figure 1 and
the respective blade terminals already taught in that reference.

Thus, the artisan would have apparently had no reason, from our perspective, to have modified Klumpp's teachings with those argued by the examiner from Takemasa. The tang lug 31 shown in Figure 4 and shown in cross-section form in an unlabeled manner in Figure 1 of Klumpp serves as a member for securing the blade within in the plug 10 as expressed at the bottom of column 2 of

10 Klumpp. Thus, it appears that the artisan would have no need or
desire to have incorporated Takemasa's web portion 53 (press
fitting section) and the associated lance-formed barbs 64
(projecting members) along the web portion as argued by the
11A examiner.

Additionally, we find ourselves in agreement with the observations of appellant at the top of page 7 of the brief which we reproduce here:

First, Klumpp, Jr. is concerned with terminals for mounting in a plug housing molded around a pair of terminals, and not with terminals for mounting in pre-formed channels in a plug housing. This is apparent from Figure 1 of the Klumpp, Jr. patent, and from the inclusion of terminal tang or lug 31 which secures the terminal within the molded plug housing and would preclude the use of terminals of the Klumpp, Jr. design in a plug housing having pre-formed channels.

With respect to these arguments, we do not agree with the examiner's responsive argument beginning at the bottom of page 8 and top of page 9 of the answer relying upon the teaching at column 2, lines 49 and 50 of Klumpp. Thus, we do not agree with the examiner's statement that plug 10 having received within it a pair of blade terminals 11 and 12 is suggesting that the terminals be inserted in the plug after it has already been formed. The weight of the suggestions from our perspective to the artisan is that Klumpp teaches implicitly but not explicitly the plug assembly 10 in Figure 1 of Klumpp has been molded about preassembled cords 13, 14 connected to the respective blades 11, 12 as illustrated in an analogies manner in Figure 2 of Klumpp.

In view of these reasons, we do not sustain the rejection of independent claim 1 and its respective dependent claims 2, 3 and 21 under 35 U.S.C. § 103.

With respect to independent claims 5 and 13 on appeal, we reach a similar conclusion with respect to these respective independent claims alleged to be obvious by the examiner in view of Gilbert and Klumpp. Although we agree with the examiner's initial views as to the rejection of claim 5 that Gilbert appears

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to teach and show a plug housing and a pair of insulated conductors in the first two clauses of claim 5, ~~we do not agree with the examiner that it would have been obvious to have modified the teachings and showings in Gilbert in view of those in Klumpp to have arrived at, within 35 U.S.C. § 103, all the additional features recited in clause (c) which comprise 3 separate subclauses (i) through (iii).~~

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We do not agree with the examiner's urging of combinability that it would have been obvious to have combined the teachings of Gilbert and Klumpp to form the terminal with a cable connection portion to provide an efficient and strong connection as

12 { expressed at page 5 of the answer. When studied in detail, it appears to us that the artisan would have had no reason to have modified Gilbert's basic plug structure to have incorporated essentially the crimped flange and piercing knife within it as taught generally by Klumpp. The respective blade portions of Gilbert shown in Figures 5 through 7 already appear to be secured in a substantial manner when viewed in cross-sections of Figures 3 and 4.

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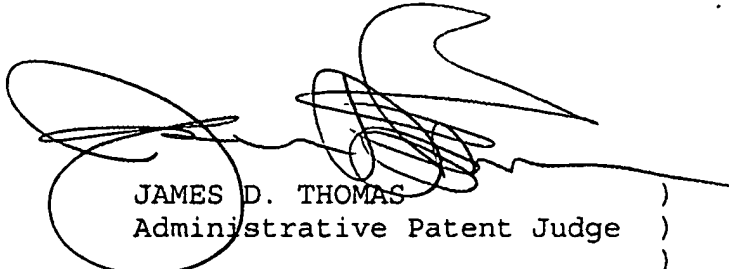
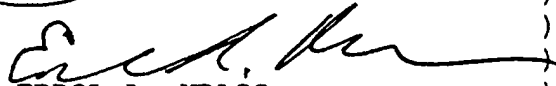
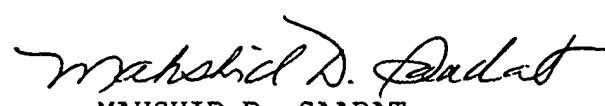
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Although independent claim 13 is in the form of a method of making-type claim, essentially the same rationale is utilized by the examiner for combinablitiy purposes at pages 6 and 7 of the answer as with respect to ~~claim 5~~. As such, we so conclude that it would not have been obvious for the artisan to have incorporated the teachings of Klumpp into the overall electrical connector arrangement of Gilbert as argued by the examiner.

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Since we have reversed the respective rejections of independent claims 1, 5, and 13 on appeal, the additional rejections of their dependent claims is also reversed. Therefore, the decision of the examiner rejecting claims 1 through 3, 5 through 13, and 15 through 21 under 35 U.S.C. § 103 is reversed.

REVERSED


JAMES D. THOMAS)
Administrative Patent Judge)
)

ERROL A. KRASS)
Administrative Patent Judge)
)

MAHSHID D. SAADAT)
Administrative Patent Judge)

BOARD OF PATENT
APPEALS AND
INTERFERENCES

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Gardner Carton & Douglas, LLP
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Chicago, IL 60606

APPENDIX A

Claim 1: An electrical terminal for mounting in a pre-formed channel in a plug housing, comprising:

- (a) a crimp flange having a pair of upwardly directed opposite side portions and a bottom portion extending between and interconnecting said side portions;
- (b) at least one insulation piercing knife integral with said crimp flange projecting from said bottom portion into the space between said side portions; and
- (c) a blade extending from said crimp flange for insertion into an electrical socket, said blade including a web portion connected to said crimp flange and a plurality of lance-formed barbs along said web portion for abutting against a wall of the pre-formed channel to resist removal of said electrical terminal from said plug housing.

Claim 2: The terminal of Claim 1 wherein said at least one insulation piercing knife is a pair of insulation piercing knives cut out and bent upwardly from said bottom portion of said crimp flange.

Claim 3: The terminal of Claim 2 wherein said insulation piercing knives are disposed substantially in a tandem alignment with one another.

Claim 4:

Claim 5: An electrical plug assembly, comprising:

(a) a plug housing having opposite front and rear ends and defining a pair of spaced apart pre-formed channels therethrough open at each of said opposite ends thereof;

(b) a pair of insulated conductors each having an end and an electrical wire and a layer of insulation covering said wire and being disposed at least partially within one of said channels of said plug housing; and

(c) a pair of electrical terminals each being insertable into one of said channels of said plug housing at the front end of said plug housing, each said terminal including:

(i) a crimp flange having a pair of upwardly directed opposite side portions and a concave arcuate-shaped bottom portion extending between and interconnecting said side portions;

(ii) at least one insulation piercing knife integral with said crimp flange projecting upwardly from said bottom portion into the space between said side portions; and

(iii) a blade extending from said crimp flange for insertion into an external electrical socket for making an electrical connection.

Claim 6: The assembly of Claim 5 wherein said housing is of a one-piece construction.

Claim 7: The assembly of Claim 5 wherein each of said electrical terminals has a one-piece construction.

Claim 8: The assembly of Claim 5 wherein:
each of said electrical terminals has opposite ends; and
said crimp flange of each said electrical terminal is disposed at a rearward position on said electrical terminal adjacent to one of said opposite ends thereof.

Claim 9: The assembly of Claim 8 wherein said blade of each of said electrical terminals is disposed at a forward position on said electrical terminal opposite from said crimp flange and adjacent to the other end of said opposite ends of said electrical terminal and extending therefrom toward but spaced from said one opposite end of said electrical terminal.

Claim 10: The assembly of Claim 5 wherein said at least one insulation piercing knife of said electrical terminal is a pair of insulation piercing knives cut out and bent upwardly from said bottom portion of said crimp flange of said electrical terminal and disposed between said side portions of said crimp flange of said electrical terminal.

Claim 11: The terminal of Claim 10 wherein said insulation piercing knives are disposed substantially in a tandem alignment with one another.

Claim 12: The terminal of Claim 5 wherein said blade includes a web portion connected to said crimp flange having a plurality of undulations formed along opposite sides of said web portion so as to define lance-formed barbs capable of entering one of said channels from the front end of said plug housing and abutting a wall of said channel to prevent removal of said electrical terminal by being pulled back through said one channel after said insulated conductor end and said electrical terminal have been inserted into said one channel of said plug housing.

Claim 13: A method of making a plug assembly, said method comprising the steps of:

(a) providing a plug housing and a plurality of electrical terminals, each of the electrical terminals having a crimp flange, at least one insulation piercing knife connected to the crimp flange and a blade connected to the crimp flange for insertion into an external electrical socket, the crimp flange having a pair of upwardly directed opposite side portions and a bottom portion extending between and interconnecting the side portions, the knife extending upwardly from the bottom portion of the crimp flange and disposed between the side portions of the crimp flange such that the end of the insulated conductor can be placed between the side portions of the crimp flange and over the piercing knife whereupon prior to insertion of the electrical terminal into the respective one of the channels of the plug housing the crimp flange is crimped onto the insulated conductor end by bending the side portions of the crimp flange toward one another over and downwardly toward the insulated conductor end such that the side portions of the crimp flange press the insulated conductor end downwardly upon

the piercing knife which pierces and displaces insulation of the insulated conductor end and makes an electrical connection with an electrical wire of the insulated conductor and such that after crimping the crimp flange the electrical terminal may be inserted into the channel of the plug housing at the one of opposite ends of the plug housing to a point spaced interiorly from the other of the opposite ends of the plug housing;

(b) passing a pair of insulated conductors through channels of the plug housing such that separate portions of each of the insulated conductors extend from opposite ends of the plug housing;

(c) aligning ends of the electrical terminals with the portions of the insulated conductors which extend from one of the opposite ends of the plug housing;

(d) crimping the electrical terminals on the ends of the insulated conductors such that insulation on the insulated conductors is penetrated and electrical connections are made between the electrical terminals and electrical wires within the ends of the insulated conductors; and

(e) securing the crimped electrical terminals on the insulated conductor ends within the channels of the plug housing.

Claim 14

Claim 15: The method of Claim 13 wherein said electrical terminal is provided with a pair of insulation piercing knives cutout and bent upwardly from the bottom portion of the crimp flange.

Claim 16: The method of Claim 15 wherein said insulation piercing knives are provided substantially in a tandem alignment with one another.

Claim 17: The method of Claim 13 wherein the blade of the electrical terminal is provided with a web portion connected to the crimp flange and having a plurality of undulations formed along opposite sides of the web portion so as to define lance-formed barbs which abut against the plug housing and prevent removal of the electrical terminal by being pulled back through the one channel and therefrom after the insulated conductor end and the electrical terminal have been inserted into the one channel of the plug housing.

Claim 18: The method of Claim 13 wherein the terminals are provided with an interconnecting strip and the strip is removed concurrently with the crimping of the electrical terminals.

Claim 19: The method of Claim 13 wherein the terminals are provided with an interconnecting strip and the strip is removed after the crimping of the electrical terminals.

Claim 20: The method of Claim 13 wherein the terminals are provided with an interconnecting strip and the strip is removed before the crimping of the electrical terminals.

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Claim 21: The terminal of claim 1 in which the bottom portion is concave shaped.

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